09/927,608

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE THE APPLICATION OF	
Armin Heinz Hayn	Examiner: Lam S. Nguyen
PATENT NO.: 6,781,124	Group Art Unit: 2853
ISSUED: August 24, 2004	Customer Number: 23644
FOR: Improvements In Or Relating To Particle Detectors	

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450," on June 17, 2005.
Name of person signing Minnie Wilson
Signature Minnie Wilson

REQUEST FOR CERTIFICATE OF CORRECTION

Certificate
MAR 24 2006
of Correction

Honorable Director of Patents and Trademarks
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The Patent and Trademark Office erred in issuing the above-identified patent, and a Certificate of Correction is therefore requested.

On March 16, 2004, the Applicant submitted to the Patent and Trademark Office a supplemental amendment, which was received by the Patent and Trademark Office on March 19, 2004. Then, on April 16, 2004, the Examiner telephoned the undersigned concerning that amendment, since an error occurred in claim 9. Inadvertently, the clause "any of claims 6 to 8" should have been presented in strikethrough, but was not, and therefore the claim read, at that time, "any of claims 6 to 8 claim 6", which made no sense. The Examiner, in an Examiner's Amendment attached to the Notice of Allowance, corrected that error.

However, all of the other amendments contained in claims 1, 2, 4, 6, 9, 10, 12, 13, 15, 16, 17 and 19 were not effected when the patent issued, nor was new claim 20

MAR 27 2006

included in the issued patent (although the Patent and Trademark Office gladly accepted the additional claim fee).

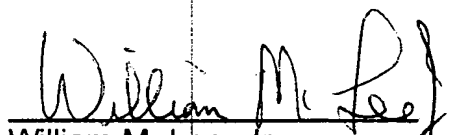
It is clear that the Patent and Trademark Office, in printing the patent, erred in not including the March 19, 2004 amendment, and a Certificate of Correction is therefore requested so that the claims are properly cast, including the changes set forth in the March 19, 2004 amendment.

Any questions should be directed to the undersigned.

As this error was clearly made by the Patent and Trademark Office, no fee is due.

June 17, 2005

Respectfully submitted,



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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,781,124

APPLICATION NO.: 09/927,608

ISSUE DATE : August 24, 2004

INVENTOR(S) : Armin Heinz Hayn

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

The claims are replaced by claim 1-19 attached:

MAILING ADDRESS OF SENDER (Please do not use customer number below):

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1. Apparatus for detecting charged particles, the apparatus comprising a chamber for receiving said particles and being such that, in use, at least a partial vacuum is maintained in the chamber; an impact responsive sensor for detecting particles incident thereon, at least the part of the sensor on which the particles are incident being situated in the chamber; an accelerating electrode for providing, in the chamber, an electric field for accelerating charged particles therein towards the sensor and an electrically conductive barrier sealing an inlet to the chamber to allow said partial vacuum to be maintained, the barrier means being sufficiently thin to enable the charged particles to be detected to travel therethrough, and being electrically isolated from the accelerating electrode so as to be capable of being maintained at a different potential from the latter.

2. Apparatus according to claim 1, in which the accelerating electrode comprises an electrically conductive member situated on or adjacent to the sensor, and a connector for connecting said member to an accelerating voltage.

3. Apparatus according to claim 1, in which the sensor comprises a scintillator for emitting light in response to the impact of a charged particle therewith.

4. Apparatus according to claim 3, in which the accelerating electrode comprises an electrically conductive member situated on or adjacent to the sensor, and a connector for connecting said member to an accelerating voltage, and in which the scintillator incorporates said accelerating electrode.

5. Apparatus according to claim 4, in which the sensor comprises an Everhart-Thornley detector.

6. Apparatus according to claim 1, in which the barrier comprises a membrane of metallic foil.

7. Apparatus according to claim 6, in which the foil is of aluminium.

8. Apparatus according to claim 7, in which the aluminium foil is of a thickness of 7.5nm.

9. Apparatus according to claim 6, in which the barrier further comprises a support which extends across said inlet behind the foil to support the latter against pressure exerted on the membrane by gas outside the chamber.

10. Apparatus according to claim 1, in which the apparatus further includes an electrically conductive cage mounted in front of, but electrically insulated from, the barrier, the cage being connectable to an accelerating voltage for drawing particles towards the barrier, the cage being so constructed as to allow the passage of particles therethrough.

11. Apparatus according to claim 1, in which the apparatus includes a pump connected to, and operable to evacuate, the chamber.

12. Apparatus according to claim 2, in which the apparatus includes a voltage source for applying a first accelerating voltage to said accelerating electrode and a second acclerating voltage of the same polarity as, but lower than, the first accelerating voltage, to the barrier.

13. Apparatus according to claim 12, in which the apparatus further includes an electrically conductive cage mounted in front of, but electrically insulated from, the barrier, the cage being connectable to an accelerating voltage for drawing particles towards the barrier means, the cage being so constructed as to allow the passage of particles therethrough, and in which the voltage source is also operable to apply to the cage a further voltage, of the same polarity as, but lower than, the second voltage.

14. Apparatus according to claim 10, in which the cage is part-spherical or ellipsoidal.

15. A scanning electron microscope having a sample chamber for holding a sample to be imaged in a gaseous environment, an electron beam generator for generating a scanning beam of electrons and directing said beam onto a sample in said sample chamber, wherein said chamber also contains a detector for detecting secondary electrons emitted by the sample, said detector comprising apparatus according to claim 1.

16. A microscope according to claim 15, in which the accelerating electrode comprises an electrically conductive member situated on or adjacent to the sensor, and a connector for connecting said member to an accelerating voltage, wherein the electrically conductive member and barrier means are connected to a voltage source for applying a voltage of +10 kV to the member and of 0 to +1 kV to the barrier means.

17. A method of detecting charged particles in a gaseous environment, the method comprising the steps of allowing or causing said particles to pass through an electrically conductive barrier at the inlet to a chamber in which at least part of an impact responsive sensor is situated; accelerating particles in the chamber towards the sensor, by means of an electric field in the chamber, while maintaining the chamber at a lower pressure than said environment and maintaining the barrier at a potential that at least reduces the intensity of electric field passing through the barrier and into the environment, wherein the barrier allows the passage of said particles whilst enabling the lower pressure to be maintained in the chamber.

18. A method according to claim 17, wherein the step of maintaining a lower pressure in the chamber is achieved by maintaining at least a partial vacuum in the chamber by means of a pump connected to an outlet of the chamber.

19. A method according to claim 17, further comprising the step of maintaining the barrier at a different potential from that of an accelerating electrode, for creating said electric field in the chamber.